Customer Code : _____

DATASHEET

DAPU P/N: **O75A-1203-20.00MHz**

Customer P/N:_____

DAPU			Customer Approval
Drew	Audited	Approved	
Date: 2024.07.08			Stamp, please! Thanks!

Guangdong Dapu Telecom Technology Co.,Ltd

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	*Amway*	2024.06.18
1.1	The "Pin Function" "Test Circuit" changed	*Amway*	2024.07.08

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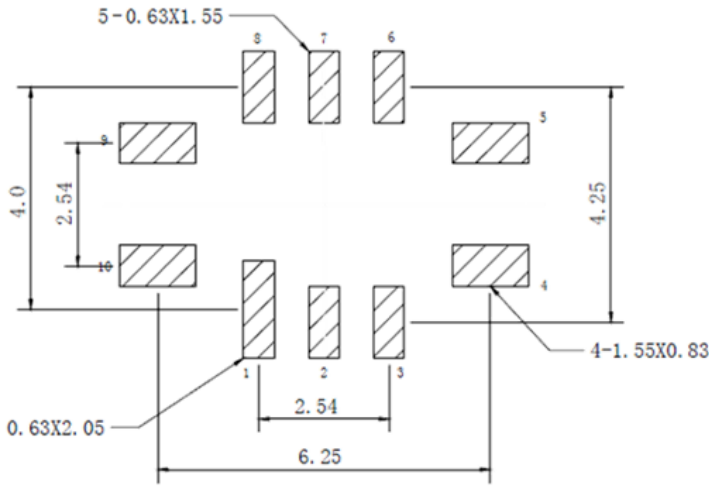FAX:0086-0769-81800098

1. Electrical Parameters

MODEL：O75A-1203-20.00MHz

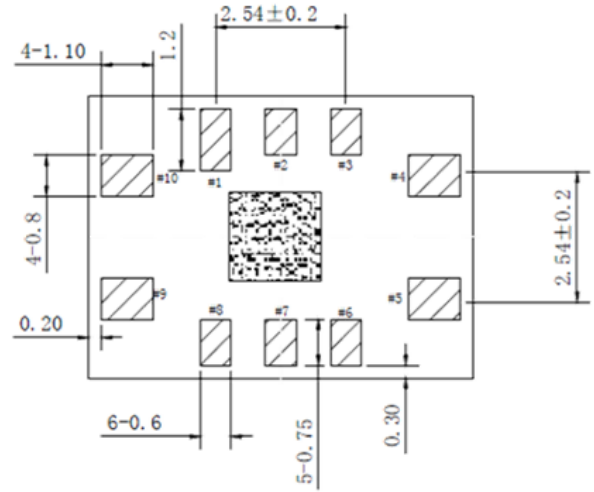| Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		20.00		MHz	
	Output Waveform		LVCMOS			
	Output Overshoot			10	%	
	Output Low Voltage			0.5	V	Vcc=3.3V, load=15pF, @2mA.
	Output High Voltage	2.2			V	Vcc=3.3V, load=15pF, @2mA.
	Duty Cycle	45		55	%	@50%
	Rise / Fall Time			3	ns	20%~80%
	Load	13.5	15	16.5	pF	
	Start-up time			20	ms	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-50		+50	$\times 10^{-9}$	TA varied from -50℃ to 105℃, measurement referenced to frequency observed with f_{ref}=(f_{max}+f_{min})/2, Vcc=3.3V, load=15pF, temperature variable speed less than 2℃per minute.
		-50		+50	$\times 10^{-9}$	TA varied from -40℃ to 110℃, measurement referenced to frequency observed with f_{ref}=(f_{max}+f_{min})/2, Vcc=3.3V, load=15pF, temperature variable speed less than 2℃per minute.
		-5		+5	$\times 10^{-6}$	TA varied from -50℃ to 125℃, measurement referenced to frequency observed with f_{ref}=(f_{max}+f_{min})/2, Vcc=3.3V, load=15pF, temperature variable speed less than 2℃per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with TA=25℃, Vcc=3.3V, and after 15 minutes of operation, within 90 days after ex-works.
	Slope			5	$\times 10^{-9/℃}$	From -50℃to -40℃,@ 0-2℃/ minute ambient air or PCB rate of change.
				1	$\times 10^{-9/℃}$	From -40℃to 105℃,@ 0-2℃/ minute ambient air or PCB rate of change.
				5	$\times 10^{-9/℃}$	From 105℃to 110℃,@ 0-2℃/ minute ambient air or PCB rate of change.
	Reflow Accuracy	-1		+1	$\times 10^{-6}$	After 1hour.
	G-Sensitivity			1.5	$\times 10^{-9}$/g	
	Frequency Tolerance vs. Supply Voltage	-0.01		+0.01	$\times 10^{-6}$	measurement referenced to frequency observed TA=25℃, Vcc varied from 3.13V to 3.47V, and Load=15pF.
	Frequency Tolerance vs. Load	-0.01		+0.01	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with TA=25℃, Vcc=3.3V, and Load=15pF.

	Short-Term Stability Allan Variance			0.05	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1s.
	Aging Tolerance Per Day	-5		+5	$\times 10^{-9}$	Vcc, TA constant measurement referenced to frequency observed with TA=25℃,Vcc=3.3V, and after 30 days of operation.
	Aging Tolerance 1 Year	-0.3		+0.3	$\times 10^{-6}$	
	Lifetime Accuracy	-4.6		+4.6	$\times 10^{-6}$	Includes calibration, operating environmental conditions, supply voltage, and 15 years of life, relative to nominal frequency.
Power Supply	Enable Voltage (High, open)	0.8Vcc		3.3	V	Pin 8 and Pin10
	Disable Voltage (low)	0		0.2Vcc	V	Pin 8 and Pin10
	Input Pull-up Impedance	10			kΩ	
	Supply Voltage	3.135	3.3	3.465	V	
	Steady Consumption			250	mA	@25℃
	Warm up current			600	mA	
	Warm Up Time			1	min	@25℃within ±0.025×10⁻⁶ of final frequency with reference after 1 hour on.
Phase Noise	Phase Noise @25℃			-68	dBc/Hz	1Hz
				-97		10Hz
				-117		100Hz
				-140		1KHz
				-146		10KHz
Environmental Conditions	Operating Temperature	-40		+110	℃	
	Operable Temperature	-50		+125	℃	
	Storage Temperature	-55		+115	℃	
	ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level ：Level 3.					
	Vibration	Sweep frequency sine wave, frequency: 10-55 Hz, maximum amplitude 1.0 mm (peak value), 55-1 KHz, maximum acceleration 10 g. Each axis 1H (3 axes 6 directions), sweep rate 1 octave/min.				
	Shock	100g; 6ms; half sine wave (3 times for each 3 directions X, Y, Z).				
Full Package Storage	Relative humidity (%)	20%～70%				
	Temperature (℃)	-10~35℃				

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2. Mechanical Structure (mm)

Solder pad layout

Bottom view

Right view

Front view

Pin Function

Pin	Function
1,2,3,6,7	NC
4	GND
5	OUTPUT
8,10	E/D
9	VCC

E/D	OUT
High Level ,Open	Data
Low Level	No Data

1203-20.00
DAPU XXXX

PIN1

Top view
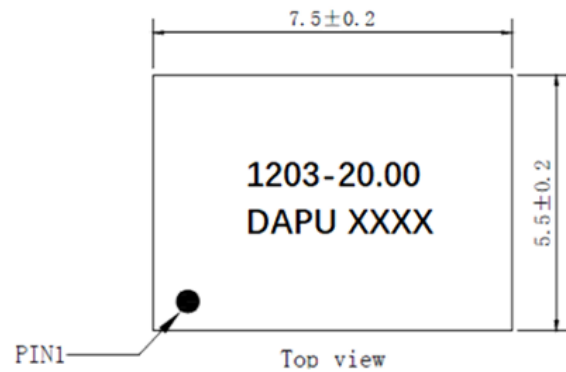
Note1: Tolerance ± 0.20mm without mark

Note2: The first two xx representative: year.
After two xx representative: week.

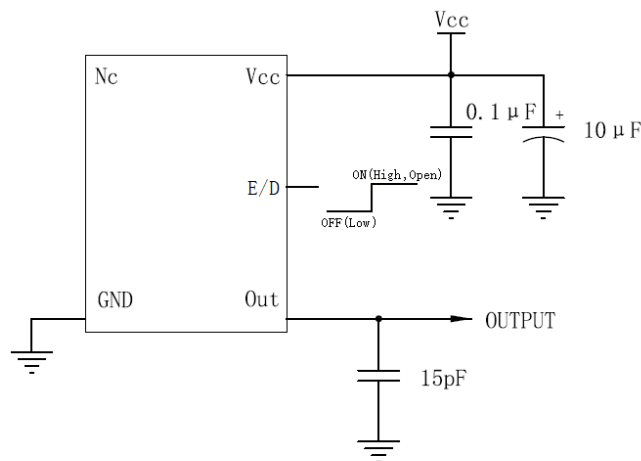**Note3:** Referential weight 0.3g

Note4: NC is not connect

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3. Application environment recommendation

a. In order to get better frequency stability and reduce frequency fluctuation of OCXO, it is suggested to use the product in wind-free environment.

b. When designing the structure layout, it is recommended that the OCXO shell and other structural devices (such as heat sink, chassis frame, etc.) have a space distance of more than 10 mm, so as to avoid serious heat dissipation caused by the distance from OCXO shell, which will affect the performance.

c. This product does not support reverse reflow welding.

d. When PCB layout is in contact with the bottom of OCXO, the layout layer shall not be covered with copper and wiring in large area. The recommended layout is as follows:
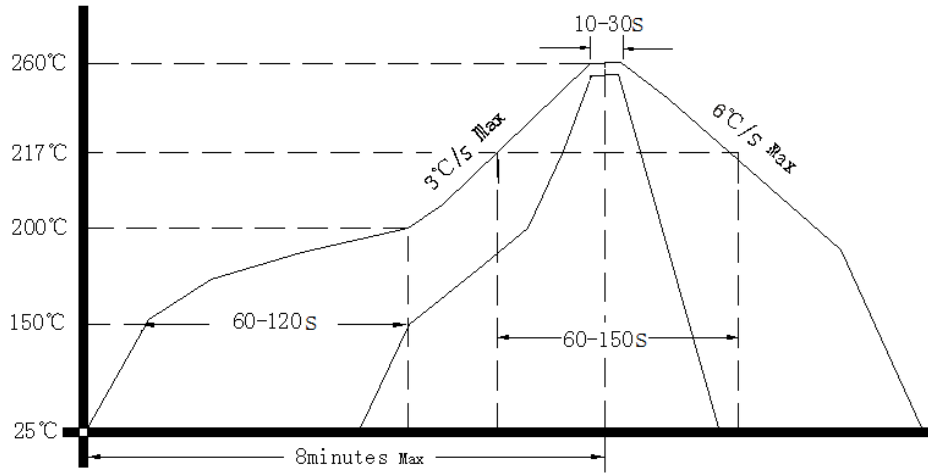

4. Test Circuit

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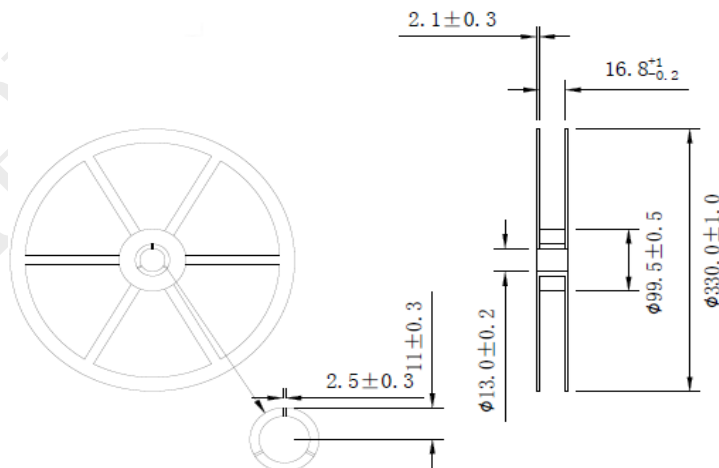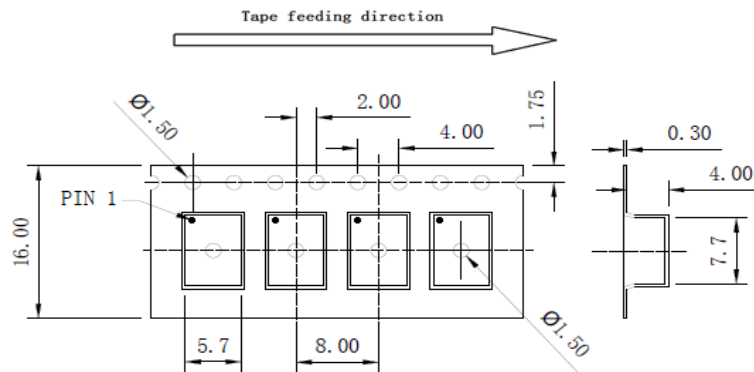TEL:0086-0769-88010888
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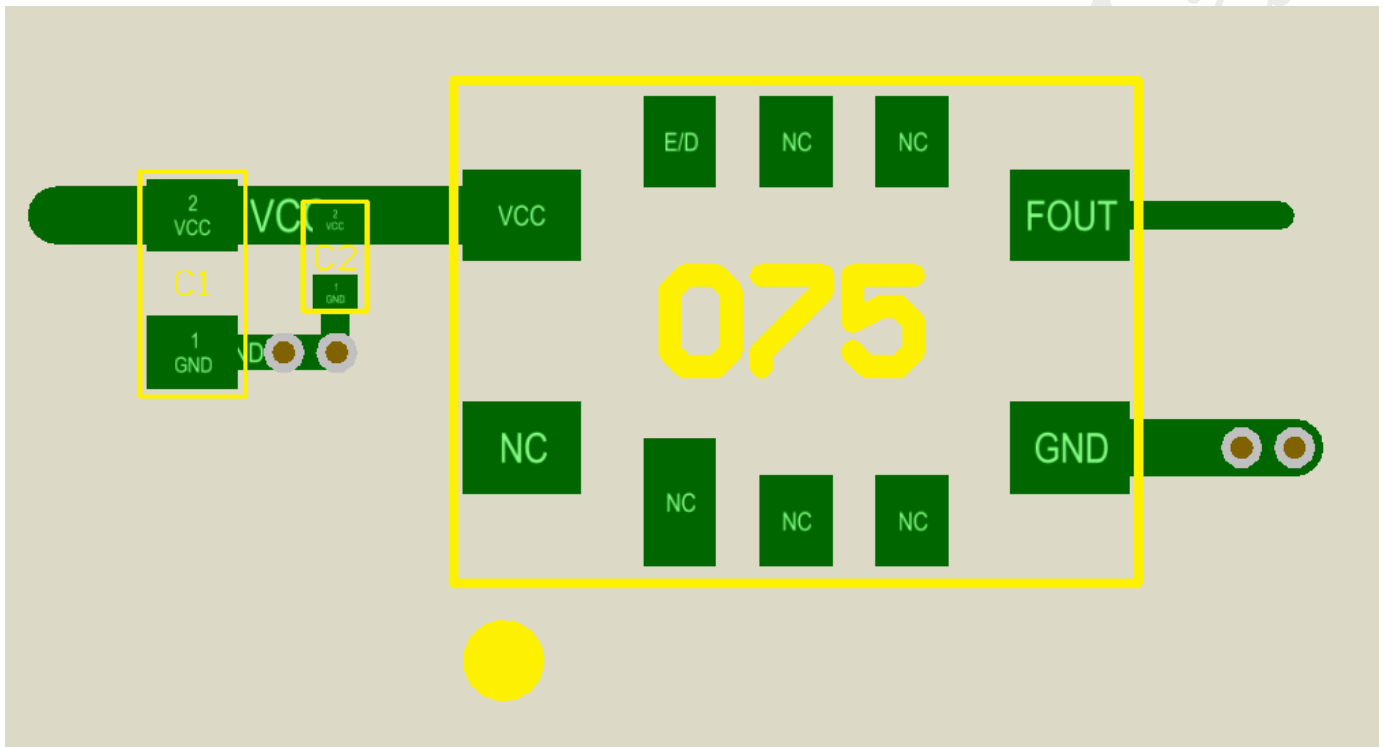
5. Reflow Soldering Curve (RoHS)

Passing through reflow upside down is not supported

6. Package: Tape & Reel (mm)

2000PCS/Reel
Material:HIPS(475)